**2.2 – Introduction to Naming**

**Covalent Compounds**

* These compounds typically consist of ­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* When naming covalent compounds, there are just a couple of simple rules to remember.
  + We will use \_\_\_\_\_\_\_\_\_\_\_\_\_ to indicate how many atoms of each element are shown in the formula.
  + The ending of the last (or most negative) element will be changed to read \_\_\_\_\_\_\_\_\_\_.
* Prefixes used in naming will be as follows:

|  |  |
| --- | --- |
| **Number of Atoms** | **Prefix Used** |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |

**Ionic Compounds**

* These compounds typically consist of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Naming these compounds is much simpler. The \_\_\_\_\_\_\_\_\_ metal appears first in the name, and its name remains the same. The \_\_\_\_\_\_\_\_\_\_ non-metal appears second, and its ending is changed to read \_\_\_\_\_\_\_\_\_\_\_.

**Checklist for naming compounds when given a formula**

1. Determine whether the compound is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
   1. **Ionic** – metal + non-metal
   2. **Covalent** – non-metal + non-metal
2. Identify the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_in the compound.
   1. Write down the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Follow the rules for naming either an ionic or covalent compound:
   1. **Ionic** – change the anion ending to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. **Covalent** – follow the prefix rule, and change the more negative element’s ending to \_\_\_\_\_\_\_\_\_\_\_\_\_.
4. Write the complete chemical name.

**Checklist for writing chemical formulas when given a name (opposite of previous instructions)**

1. Determine whether it is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ compound.
   1. **Ionic** – metal + non-metal
   2. **Covalent** – non-metal + non-metal
2. Identify the elements in the compound
   1. Write down the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for each element.
3. Analyze the name to determine \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:
   1. **Ionic** – check the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Overall charge of formula should equal \_\_\_\_\_\_\_\_\_ – you can use the crossover method if you like.
   2. **Covalent** – check the \_\_\_\_\_\_\_\_\_\_\_. They should tell you how many atoms are in the molecule.
4. Write the correct chemical formula.

**Practice Time!**

Name the following compounds. Write the chemical formulas for the following:

1. CaO 1. Sodium Chloride

1. SiF6 2. Carbon tetrahydride

1. PCl5 3. Diphosphorus pentoxide

1. LiSO4 4. Cesium Iodide

1. C2N2 5. Barium chloride